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ABSTRACT

A project was conducted to provide staff development workshops about adults with learning problems to agencies throughout Pennsylvania. Workshops and accompanying guides on nine topics ranging from understanding learning differences, problems, and disabilities to alternative instructional techniques were developed. Workshops were conducted throughout Pennsylvania for adult basic education (ABE) teachers and volunteer tutors. Each workshop combined lecture and question-and-answer segments. Because of the severe weather during the winter when the workshops were offered, approximately 350 individuals attended the workshops instead of the 500 persons anticipated. Those ABE teachers and tutors who did attend indicated that the workshops were very helpful and provided them with techniques that they could use immediately with their students. (This report includes a vocabulary development workbook; a guide for teaching students with learning problems to write with a word processor; guides for improving the math and spelling skills of students with learning problems; a career counseling guide for teachers, parents, and students with learning problems; and a guide for college students with learning problems.) (MN)

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ED 376 356

Staff Development Workshops About Learning Disabilities

Richard Cooper, Ph.D.
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Project Year: July 1, 1993 to June 30, 1994

Amount Funded: $ 9,966.04

Contract No. -- 99-4033

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ABSTRACT PAGE

Title: Staff Development Workshops About Learning Disabilities

Project No.: 99-4033 Funding: $9,966.04 July 1, 1993 - June 30, 1994

Project Director: Richard Cooper, Ph.D. Phone No.: (610) 525-8336

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Purpose:

This project proposed to provide a staff development workshops about adults with learning problems to agencies throughout the state. Dr. Richard Cooper, Director of the Center for Alternative Learning, traveled to adult education programs in Pennsylvania to train adult basic education teachers and volunteer tutors. Nine different workshops were available through this project and topic ranged from understanding learning differences, problems and disabilities to alternative instructional techniques.

Procedures:

The workshops were scheduled on a first come first served basis and scheduled at times and locations convenient to the participants. The workshops were a combination of lecture and time for questions and answers. The lecture part of the workshop provided participants with information about learning problems and methods for teaching various subjects to these students.

Summary of Findings:

This staff development project provided adult educators with an opportunity to learn about learning differences, problems and disabilities and different approaches to the teaching of reading, writing, spelling, and math. The adult education teachers and volunteer tutors reported that the workshops were very helpful and provided them with techniques which they could use immediately with their students.

Comments:

Because of the severe winter there were fewer participants involved in these workshops. Instead of the expected 500 participants about 350 teachers and adult students attended these staff development workshops.

Products:

This project includes a video tape of one of the workshops.

Introduction

The need for information about adults with learning disabilities continues to be a priority in Pennsylvania and around the country. The 353 staff development projects which Dr. Cooper has been funded for in Pennsylvania (traveling around that state to train adult educators who do not have easy access to specialists) has been emulated in South Carolina during the 1992-93 school year. Dr. Cooper was contracted through 353 funds to travel to more than a dozen sites in South Carolina and present the workshops on adults with learning problems.

Statement of the problem

In Pennsylvania, there continues to be a need for training on learning disabilities. There are a number of reasons why Dr. Cooper's staff development workshops on adults with learning problems continue to be requested by local agencies. These reasons include: 1) turnover among adult educators, especially tutors, is high; 2) adult educators have little training meeting the special learning needs of adults with learning disabilities; 3) the information presented in his workshops is immediately applicable to the teachers and their students; and 4) Dr. Cooper's approach to learning disabilities includes the whole person not just the academic deficiencies.

Goals and Objectives

To provide 20 staff development workshops to approximately 500 adult educators on adults with learning problems.

To encourage adult students to attend the workshops and increase their self-awareness and self-confidence.

To work with the Regional Staff Development Centers to provide the workshops to the adult educators who need this type of training

To disseminate the information collected in other 353 projects which Dr. Cooper has participated in over the years. (Other staff development projects, research and demonstration projects: Tic Tac Toe Math, Screening for Information Processing Problems.)

Procedures

The availability of the workshops was announced through the "Learning disAbilities Newsletter," the Regional Staff Development Centers and through phone contacts to agencies which had expressed an interest in such workshops. The staff development workshops were scheduled throughout the year and conducted to meet the staff development needs of the local agencies.

The following workshops were offered:

Understanding Learning Disabilities, Problems and Differences.

Innovative Instructional Techniques for the Teaching of Reading
to Adults with Learning Problems

Innovative Instructional Techniques for Teaching Spelling
to adults with Learning Problems

Innovative Instructional Techniques for teaching Writing
to Adults with Learning Problems

Innovative Instructional Techniques for Teaching Math
to Adults with Learning Problems

Tic Tac Toe Math

Tic Tac Toe Math with Fractions

Screening for Information Processing Problems

Learning Problems and Work Problems

The agencies were able to request workshops that combined topics from the following outlines. For example, the workshop given at the Central Pennsylvania Literacy Council in New Cumberland combined parts of the reading, spelling and writing workshops to provide their volunteer tutors with information on how to improve language skills.

Workshop Outline

Understanding Learning Disabilities, Problems and Differences

1. Theoretical Models
2. The Learning Disabilities Matrix
3. Perception

   Processing

   Communication
4. Behavioral Characteristics
   - Visual
   - Auditory
   - Right/Left Discrimination
   - Racing Mind
   - Motor Skills
   - Sequencing
   - Organization
5. Degrees of Learning Difficulties
6. What are not learning disabilities
7. Questions and Answers

Workshop Outline

Innovative Instructional Techniques for the Teaching of Reading to Adults with Learning Problems

1. Learning Problems which Limit Reading
2. Non-Readers
3. Weak Readers
4. Basic Readers
5. Readers with Errors
6. Readers with Limited Comprehension
7. Assessing Reading Skills
8. Correcting Errors
    - Tracking
    - Deleted or changed endings
    - Skipped words
    - Reading synonyms
    - Flickering
9. "Coaching" as a method for improving reading skills
10. Questions and Answers

Workshop Outline

Innovative Instructional Techniques for Teaching Spelling to adults with Learning Problems

1. Learning Problems which Limit Spelling
2. The Relationship between Writing and Spelling
3. Writing Activities to Get Students Writing
4. Alternative Spelling Techniques
    - Word Parts
    - Sequences
    - Rhymes
    - Mnemonics
    - Small Words in Words
    - Root Words
    - Word Families
    - Parts of Speech
    - Rules
    - Patterns
    - Repetition
5. Special Problems

Simple Phonetic Spelling
Reversals
Missing Letters
Avoidance Patterns

7. Questions and Answers

Workshop Outline

Innovative Instructional Techniques for Teaching Writing to Adults with Learning Problems

1. Learning Problems which Limit Writing
2. Avoidance Patterns
3. Spelling Problems
4. Difficulties with Parts of Speech
5. Difficulties with Grammar Rules
6. Techniques for Teaching Writing
    - Expanded Drafts
    - Sentence Models
    - Cooperative Narratives
    - Choosing and Narrowing a Topic
7. Students' Evaluation of their Writing
    - Organization
    - Clarity
    - Relevance
    - Proofing Reading for Errors
8. Questions and Answers

Workshop Outline

Innovative Instructional Techniques for Teaching Math to Adults with Learning Problems

1. Learning Problems which Limit Math
    - Visual Processing Problems
    - Reversals
    - Triggering
    - Sequencing Problems
    - Memory
2. Quantitative Perceptions
3. Quantitative Concepts
    - Math Vocabulary
    - Everything is Measurable
    - Odd and Even
4. Number Fact Recall
5. Techniques
    - Whole Numbers
        - Addition
        - Subtraction
        - Multiplication
        - Division
    - Fractions
    - Decimals
    - Percentages
7. Questions and Answers

Workshop Outline

Tic Tac Toe Math System

1. Introduction
2. Basic Concepts
    - Addition Facts
    - Odd and Even
3. The Tic Tac Toe Patterns
    - The X and the cross
    - The X and the Diamond
    - The three arrows
    - The half chair
4. Putting these patterns in to the Tic Tac Toe Grid
5. The Tic Tac Toe Grids 1 to 9
6. Double Digit Grids that end in 1 or 0
7. Other Double Digit Grids
8. Multiple-Digit Grids
9. On to Infinity
10. Using the Tic Tac Toe Math System
    - Multiplying
    - Dividing
    - Use with Fractions
11. Questions and Answers

Workshop Outline

Tic Tac Toe Math with Fractions

1. Review of single Digit Grids
2. Review of Double Digit Grids
3. Understanding Fractions
4. Using the Grids for Reducing Fractions
5. Using the Grids to Multiply and Divide Fractions
6. Using the Grids to find Common Denominators
7. Questions and Answers

Workshop Outline

Screening for Information Processing Problems

1. Screening vs. Formal Educational or Psychological Testing
2. Reading and Understanding Test Scores
3. Labels
4. Behavioral Characteristics
5. Interviewing Techniques
6. Error Analysis
7. Diagnostic Teaching
8. Questions and Answers

Workshop Outline

Learning Problems and Work Problems

1. Case Studies
    - Severe Learning Problems
    - Moderate Learning Problems
    - Mild Learning Problems
2. Reasons for Work Problems
    - Limited Skills
    - Poor Social Skills
    - Unrealistic Expectations
3. Difficulties Finding a Job
    - Assessing Job Skills
    - Social Skills
4. Difficulties Getting the Job
    - Job Applications
    - Interviewing Skills
5. Difficulties Holding a Job
    - Productivity
    - Interpersonal Interaction
6. Difficulties Moving Up in a Job
    - Unrealistic Expectation
    - Unwanted Promotions
7. Questions and Answers

Objectives which were met

The objective of providing 20 staff development workshops was met and exceeded. Twenty two workshops were provided through the funding of this staff development project. These workshops were held around the state. Most of them were held outside of the Philadelphia area since there were other staff development projects conduced by Dr. Cooper in the Philadelphia area which teachers and tutors could attend.

The objective to have adult students attend these workshops was also met. Adult students were not present at each of the workshops, but they were invited to, and many were present at, the majority of the workshops. Some of the staff development workshops were specifically for teachers and these were not open to the students. For example, in Lancaster, one workshop on teaching techniques was offered to instructors and another workshop on understanding learning differences was offered for instructors, tutors and students.

Objectives which were not met

The objective which was not met fully was the expected attendance. The expected attendance was an average of 25 at each workshop. However, because of the severe weather during the first few months of 1994, some of the workshops did not have the anticipated attendance. Instead of the expected 500 participants, about 350 teachers, tutors and adults students attended these workshops.

Evaluation Instruments and Results

Each workshop participant was asked to complete an evaluation form and most complied with this request. These evaluations indicated that the workshops most often met the needs of the participants. Participants indicated that the content was appropriate for the teaching of adults and that the presentation was interesting and informative.

It was noted that, in the workshops were there were adult students, a smaller percentage of the evaluation forms were completed. We credit this to a number of reasons. First, for many adult students this was the first workshop of this type (staff development for teachers) which they had ever attended. These students may not have known how to complete the evaluation form. Others may not have felt that their input was important or appropriate since they were not teachers. Still others may not have been able to read the evaluation form or were too embarrassed to seek assistance in completing it.

The external evaluator, Dr. James Ryan, said that the staff development workshops offered by Dr. Cooper are well developed and he adjusts them readily to individual audiences. "The sessions where both students and faculty were involved seemed to be very effective and totally non-threatening to all involved. The mood of these sessions was exceedingly upbeat with some students identifying their difficulty for the first time and teachers seeing their reactions." I

"In my opinion, these workshops need to be categorized as on-going, with a need for new sessions for each semester. In this manner, new students and faculty are accommodated. At the Training Fund for the Union of Hospital Workers, we have found that students are more than willing to come back again and again to attend Dr. Cooper's workshops."

Dissemination of findings and product

The majority of the participants in these staff development workshops stated that they needed further training about adults with special learning needs, especially those with more severe learning problems which dramatically reduce the students' achievement. In discussions with many workshop participants, Dr.

Cooper heard over and over that teachers and tutors need more training about learning disabilities and alternative instructional techniques which have proven successful in the teaching of students with severe learning problems. Most were satisfied that the workshop they attended would enable them to improve their teaching of such students, However, they did not believe that the training would be enough because of the wide variety of problems these students bring to the classrooms and tutoring sessions.

This report and a video tape of one of the workshops are available through AdvancE and the Western Pennsylvania Resource Center. A copy is also available in the Center for Alternative Learning for our volunteer tutors and new staff. These workshops are available to the Regional Staff Development Centers which can schedule them throughout the year. The workshops offered by Dr. Cooper have become extremely popular and he is providing staff development training not only in Pennsylvania but in many other states.

Vocabulary

Development

Workbook

by

Richard Cooper, Ph.D.

Published by:

LEARNING disABILITIES RESOURCES
P.O. BOX 716
BRYN MAWR, PA 19010

215-525-8336

800-869-8336

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Vocabulary Development Workbook

This workbook is designed to assist individuals, of any school age or educational background, who need or desire to increase their vocabulary. Since a limited vocabulary is the cause of many comprehension problems, both listening and reading, this book provides the person with a systematic and multiple memory approach to increase his or her understanding of the meaning of word.

How to use the book:

1. Write words to be defined on the first page.

2. Look up the word and decide if it has a single definition, two definitions or many definitions.

3. Write the word on the top of the appropriate page and fill in as many parts as you can. (see the next pages for examples.)

Word: marsupial

[✓ Noun]
___ Verb
___ Adjective
___ Adverb
___ Pronoun
___ Preposition
___ Conjunction
___ Interjection

Definition: 1) any of a large group of mostly Australian primitive mammals that bear very immature young which are nourished in a pouch on the abdomen of the female.

Synonyms: Kangaroo

Antonyms:

Spelling and Pronunciation Clues:

mar sup ial
(suffix)

Sentence The scientists are studying the marsupials in the zoo.

Visualization and Memory Clues:

Word: magnificent

___ Noun
___ Verb
✓ Adjective
___ Adverb
___ Pronoun
___ Preposition
___ Conjunction
___ Interjection

Definition: 1) Characterized by grandeur or beauty

2) Noble, Exaulted

3) exceptionally Fine

Synonym: grandiose majestic splendid superb superlative

Antonyms: modest wretched unimpressive "low-down"

Spelling and Pronunciation Clues:

magn ifi cent (¢)

Sentence 1) The magnificent sunset

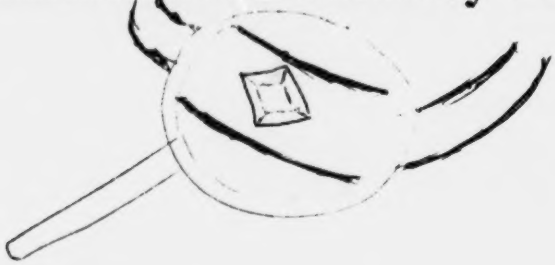
was a wonderful backdrop for the concert.

2) He was a magnificent man.

3) The chef prepared a magnificent meal for all of us.

Root: magni - big, large

Visualization and Memory Clues:



Related Words:

magnify
magnitude
magniloquent
magnifico

enlarge
great
spectacular
awesome

Word: Table

[✓ Noun]
[✓ Verb]
Adjective
Adverb
Pronoun
Preposition
Conjunction
Interjection

Definition: 1) a piece of furniture, flat on top usually with legs.

2) a compact, systematic list of detail.

3) a broad level elevated area

4) (v.) To postpone the discussion of

5)

Synonyms: (1) Board (2) chart
(3) plateau

Antonyms: (3) lowland

Spelling and Pronunciation Clues:

T- able   table
or
Tab-le

Sentence 1) The family sat down at the Table for dinner.

2) the book contains many tables and graphs.

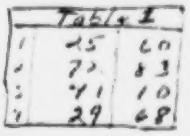
3) The city is located on a table.

4) the committee tabled the idea until the next meeting.

5)

Root: Tabula a board in Latin

Visualization and Memory Clues:



Related Words:

altar
coffee Table
Tabular (adj) Flat
Tablet

chart
Tabulate
Tabulator

Words To Define:

Word: ______________________

___ Noun
_ Verb
___ Adjective
___ Adverb
____ Pronoun
____ Preposition
____ Conjunction
____ Interjection

Definition: 1) ____________________________
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Synonyms: _______________ ____________

Antonyms: ______________ _____________

Spelling and Pronunciation Clues:

Sentence ________________________________
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Visualization and Memory Clues:

Word: ________________________

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Definition: 1) ____________________________
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Synonyms: _______________ ____________

Antonyms: ______________ _____________

Spelling and Pronunciation Clues:

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Visualization and Memory Clues:

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Definition: 1) ________________________
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Synonyms: ____________ __________

Antonyms: ____________ ___________

Spelling and Pronunciation Clues:

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Visualization and Memory Clues:

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Definition: 1) __________________________
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Synonyms: ______________ ___________

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Spelling and Pronunciation Clues:

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Visualization and Memory Clues:

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Synonyms: ______________ ____________

Antonyms: _____________ ____________

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Visualization and Memory Clues:

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Visualization and Memory Clues:

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Visualization and Memory Clues:

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Definition: 1) ______________________________
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Antonyms: ______________ ____________

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Visualization and Memory Clues:

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Definition: 1) ___________________________

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Visualization and Memory Clues:

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Antonyms: ______________ ____________

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Definition: 1) __________________________

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2) __________________________

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Synonym: ______________ ___________

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Antonyms: _____________ ____________

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Spelling and Pronunciation Clues:

Sentence 1) ____________________________

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2) ________________________________

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Root: ____

Visualization and Memory Clues:

Related Words:

______________________ ______________________

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Word: ________________________

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Definition: 1) ____________________________
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2) ____________________________
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Synonym: _______________ ____________
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Antonyms: ______________ _____________
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Spelling and Pronunciation Clues:

Sentence 1) ______________________________

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2) ________________________________

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Root: ______________________________________

Visualization and Memory Clues:

Related Words:

______________________ ______________________

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Word: ________________________

__ Noun	____ Pronoun
__ Verb	____ Preposition
__ Adjective	____ Conjunction
__ Adverb	____ Interjection

Definition: 1) ____________________________

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2) ___________________________

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Synonym: _______________ ____________

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Antonyms: ______________ _____________

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Spelling and Pronunciation Clues:

Sentence 1) ____________________________

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2) ________________________________

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Root: ______________________________________

Visualization and Memory Clues:

Related Words:

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__ Adjective
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___ Interjection

Definition: 1) __________________________
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Synonym: ______________ ___________
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Antonyms: _____________ ____________
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Spelling and Pronunciation Clues:

Sentence 1) ___________________________

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2) ___________________________

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Root: ______________________________

Visualization and Memory Clues:

Related Words:

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___ Adjective
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Definition: 1) ______________________
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2) ______________________
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Synonym: ____________ ____________
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Antonyms: ____________ ____________
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Writing With a Word Processor

A Guide for teaching students with learning problems to write

by

Richard J. Cooper

Introduction:

Why does a word processor help compensate for a learning problem? Writing with a word processor enables many individuals with learning problems to compensate for many of their deficiences, such as: the "racing mind," "right/left problems," difficulties with organization and spelling.

One thing that many people with learning problems agree about is that writing is hard, unpleasant work, and rewriting is worse. It is time-consuming, because each time you write, you usually create new errors, such as typos, misspellings and skipped words. With a general dislike for an unpleasant task (hating to write), and the frustration of poor skills, there is little wonder why those of us with this learning problems avoid written tasks. With a word processor, when you type something ,it remains correct. Without the new technology, when you type or handwrite, words which are spelled correctly on one draft may be misspelled on subsequent drafts. On the word processor, however, once you type a word correctly, it does not have to be typed again. This eliminates the chance of making errors when rewriting or copying things over.

Outlining is very easily accomplished on a word processor. Students, who use brainstorming as a writing technique, find that their ability to outline is increased with the word processor. Ideas can be easily moved around until an orderly outline is developed. Because writing is difficult for people with learning problems, avoidance is a common way out. Additionally, the tendency to do the minimum, or not to rewrite sufficiently is a common problem.

The need for multiple drafts is accepted by most people, but the person with a learning problem either finds it too difficult to rewrite because there is little improvement or more errors are made. The word processor makes rewriting and multiple drafts easy.

Spell checking is available on many word processing programs.

These incredible spelling aids are time saving and provide many previously limited writers with a level of independence. Grammar checks are the newest addition to the technology and they are very helpful for students with writing problems. This program points out a range of common grammatical errors, thus enabling the student to independently correct and improve their written work.

Reorganizing without a word processor often meant scissors and tape. Cutting and pasting manually was a long and tedious process which often contributed to a student's disorganization. With sentences and paragraphs spread out all over the place, things were often misplaced or forgotten.

In addition to the things listed above, which are helpful to most writers, there are a number of different writing techniques, that can be used with the word processor, which directly compensates for some learning problems. These are the *single letter technique*, the *multiple draft technique* and the *dictation technique*.

Single letter technique:

The *single letter technique* works well for students who find that they have difficulty remembering the ideas they want to write. For example, a student may think ' *When the dog is relaxing on the porch, the neighbor's cat always bothers him.* " But, as he tries to write it, some words are skipped and the ideas may change because it takes too long to write the sentence. As a result the sentence may read, *"When the dog relazing on the porch, the neighbor's cat bother him and runs by.* " This problem can be reduced by having the student write the first letter of each word as the words of his sentence are still fresh in his mind. The previous sentence would look like this, *"w t d i r o t p t n c a b h.* " Most students can easily write down the first letter and keep going because it is quick and they do not have to stop and think about how to spell individual words. The task of writing the sentence and spelling is now divided into two distinct tasks. Now the student can fill in the word or parts of words that he can spell. On the word processor the student can now fill in the words of the sentence which might look like this. "*Whan the dog is relexng on the poorh, the neghbur cat booder him.*" Now spelling can be checked or the following sentences can be written in a similar fashion. Students do not have to religiously stick to one letter. They might type out small and familiar words. The next sentence might say. *I w this s with f ex.* Filling in the word produces: *I watch this scene with fearful expectation.*

Expanding drafts

Another method, which can be used to write with the word processor, is expanding drafts. This is my personal favorite. It is why it often takes 30 drafts for me to produce a finished piece of writing. In the expanding draft method, the writer enters a number of topics in a brainstorming frenzy. These words are the first draft. For example, when writing a piece about the dog mentioned above, the following list of words may be entered onto the screen: *dog cat bother porch chase noise repeats the same*.

The list will vary in size depending on the length of the project and the number of ideas that the writer has. This list is now printed out and reviewed. The order should be checked to see if it is organized in a logical manner. If it is not, then the order should be changed. The draft can be reprinted or reviewed on the screen, and now words can be added to expand the ideas. The resulting draft might look like this.

dog relaxing neighbur cat bother on the back porch dog chased the cat there was a lot of noise the seine repets itself each day.

This can be reprinted or reviewed on screen. At this time, the spelling can be corrected and more words can be added. If the order is not correct, or needs to be changed, because of a different idea, this will be done as another draft. The new draft might look like this: *The dog was relaxing on the back porch. The neighbor cat bother the dog. who chased the cat make a grate deal of noise. The scene repeats itself.* The process is repeated. At this point the person with a severe learning disability may have to have an editor review the draft to make suggestions and point out grammar rules, like the possessive form for the word *neighbor.* This draft with corrections might look like this. (Writers with more ability can do their own editing but eventually should have someone read what they write over to point out mistakes or unclear ideas.) *The dog was relaxing on the back porch. The neighbor cat bother the dog. who chased the cat make a grate deal of noise. The scene repeats itself.* These corrections can now be entered into the word processor and another draft printed or changes made on the screen. This might be how the new draft looks: *Our dog is relaxing on the back porch. The neighbor's cat comes by and bother him. The dog chases the cat arond and they make a great deal of noise. Each doay the scene repeats itself.* The draft process is repeated again as often as necessary. If the writer can proofread, then an editor is not needed. Of course, if the computer has a spelling check and a grammar check, these should be used. At this time, sentences can be combined; adjectives, adverbs and prepositional phrases can be added to increase the detail. (For some writers, these steps may be separate drafts.) *When our old dog is relaxing on the back porch, the neighbor's cat always comes by and bothers him. The sluggish dog responds by chasing the cat arond the back yard. They make a great deal of frightening noises. Each day this horrible scene repeats itself.*

Dictation

Some students prefer to dictate their ideas and edit them after they have been written out. Depending on the person's writing or typing proficiency, he will either transcribe the composition himself or have someone else do it for him. It, of course, is a very acceptable technique in the world of professional work, to have someone transcribe one's dictation, but it is often seen as inappropriate for students.

A couple of final pointers:

1. Encourage the student to write many drafts. The number of drafts should be determined by the student's writing ability. If five drafts are sufficient, fine, but if 30 are necessary, then the student must expect to do that many.

2. It should be insisted that the student read out loud what has been written. Since students with writing problems often read what they think instead of what they have written on the page, they need to read their work very carefully, word for word.

3. Encourage students to write for practice. If the only time they write is under pressure of an assignment, they are not able to experiment with their skills in a relaxed manner.

Quantitative Concepts

A Guide for Improving Math Skills for students with Weak Math Performance

by

Richard J. Cooper

Introduction to Quantitative Concepts:

Individuals with learning problems often have difficulty with math. Their math problems can be caused by differences in perception, deficiences in sequences, right/left discrimination problems and ambiguous vocabularies.

Perceptions can be seen in three distinct types: visual, linguistic, and quantitative. For example, when we see a chair, we have a visual impression of an object and we add a label or name to our perception, if it is a familiar object. Therefore, we receive the perception of an object on which one can sit. If it is not a known object, we have no way of classifying it. We can only describe it. We simultaneously note the quantitative aspects of the object. Is it large, small, three inches or three feet tall? Our quantitative perceptions vary depending on the depth of our quantitative concepts or categories.

Individuals with learning problems may have difficulty with any one of these perceptions. Those with math problems often lack depth in their quantitative perceptions. They do not see the numbers in the things around them. For example, when a person looks around a room, there are many numerical obserations to be made. The number of people present, the pieces of furniture, the dimensions of the room, and many other observations which have quantity. The person who lacks quantitative concepts may just see a group of people and some furniture, without noticing whether there are few or many pieces. He/she might have no idea of what the dimension of the room are and not take notice of other things which can be defined in terms of quantity.

If a person can not sequence well or makes errors because of difficulties following steps in exact order, then he will have difficulty to obtain the correct answer when solving math problems. Some individuals with learning problems do not see numbers as repeating patterns. Instead they see numbers without logical order or random order, without rhyme or reason. Odd and even numbers are not numbers understood, or they are confused.

Right/left discrimination can cause reversals which result in errors. Problems with right and left result in confusion, transpositions and memory difficulties of items which have an "either/or" relationship. Errors leads to frustration, which usually results in avoidance. When a person avoids a task, that task cannot be mastered.

Students with both language based and math based learning problems often have underdeveloped or ambiguous vocabularies. This means that the student does not know words commonly used in math, or cannot percisely define such words. For example, when asked what the word "equal" means, the student may say that it is the answer of a math problem or this number plus this number "equals" another number. The concept that equals means a balance, or the same, is not known or fully understood. Another example is the word "average." The definition given is often "you add up all the numbers and divide." Although this is a correct description of how to find an average, it indicates that the person does not know it is a leveling or evening out of the numbers. In both of these incidents it should be noted that the student sees these terms as a vertical rather than a horizonal concept.

Vertical Concept of Equal:

$$\begin{array}{r} 2 \\ +\,2 \\ 4 \end{array}$$

Horizonal Concept of Equal:

2 + 2 = 4

Teaching quantitative concepts:

There are a few basic ideas that a student must understand to begin developing quantitative concepts. These are:

1. Everything is measurable.
2. There is a distinction between absolute and relative numbers.

3. There are many different units of measument and the same item can be measured using different units.

The following are some examples of quantitative concepts which can be explained to a student. Because of individual differences in age, ability and the degree of learning problems, it may not be necessary to point out all of these concepts. On the other hand, more quantitive concepts may have to be identified and explained.

Taxes: Every one pays taxes, but many students do not know what they are. The student needs to learn about different types of taxes and given examples and explanations about how they are calculated. Sales tax, property tax, occupation tax and income tax are quantitative concepts to be taught.

Liquid Measurements: The concept of a gallon is often not understood and even less understood are the smaller parts of this liquid measurement. Quarts, pints, and cups must be explained in concrete terms. Actually taking a gallon of water and dividing it into different units of measurements is an effective way to demonstrate the different sizes. Also the relationship between these units of measure and ounces and liters must be taught.

Metrics: The relationship between standard and metric units of measurement is an obvious distinction which must be made and understood. Very often the only exposure that the student will remember about the metric system is that it is confusing to convert these units of measurement. The student with weak quantitative concepts often gave up in confusion and never really learned that metric and standard measurements are different ways to express the same quantity. It is not necessary to teach how to convert standard to metric in mathematical terms when developing quantitative concepts, rather the student needs to understand that it is just like a synonym in language.

Gas Prices: The price of gas is an opportunity to teach a quantitative concept. Few students with learning problems even notice that the price of gasoline usualy includes a fraction of a cent. Despite the large signs which say $1.19 9/10, these students rarely pay attention to the price or understand what the 9/10 represents. The concept of a fraction of cent is often difficult for individuals whose understanding of math is very concrete.

Measurement Tools: A discussion of measurement tools is an excellent means to introduce many quantitative concepts. Ruler, measuring cup, scale, barometer, thermometer, gas gauge, tire pressure gauge, thermostat, oven control, water, gas and electric meters, protractor, compass, drill index, micrometer, metronome, odometer, speedometer, and tachometer, watch, voltometer, ampmeter, shoe size meter, capilar, geiger counter, seismograph, cash register, gas pumps are examples of measuring tools.

Building Materials: An understanding of building material measurements is a good way to show quantitative concepts because building components are in constant view. Showing students 2" x 4" studs, 4' x 8' panels, 2' x 4' ceiling tiles, 12" x 12" floor tile, standard door of 80" and other similiar components provide them with a means of estimating dimensions.

Weather Numbers: Each day we all hear or see numbers which are related to the weather: the barometric pressure, wind speed, and in winter, the wind chill, the temperature, the relative humidity, and amount of percipitation.

There are many quantitative concepts in commerce. Unit prices, price per pound, sales, discounts and coupons are examples of numbers which are often not noted or understood by students with poor math skills. Many students find it amazing that they already know how to use fractions. Pointing out how fractions are used in every day conversation removes the mystery from these evasive little pieces. The fact that a quarter is 1/4 of a dollar is usualy understood even by students with weak math skills but rarely do these students make the connection that the quarters in their pockets are fractions.

There are obviously more quantitative concepts than those mentioned above. These are just examples of what students with learning problems often do not know. Anyone working with students who have weak math skills should not assume that the person understands the quantitative concept associated with anything. Gaps in their understanding is more often the norm than the exception. Therefore, exploring what the person knows and does not know will provide the teacher or tutor with a place to begin.

The development of quantitative concepts can best be achieved through an interactive process. A teacher or tutor presents questions about how to measure something or what a certain number or set of numbers represent. For example, the teacher might ask how electricity is measured or might ask what the numbers on light bulbs mean. In this way the student has an opportunity to learn about quantitative concepts which are not apparent.

I suggest that a student should keep a math observation notebook. In this notebook, observations and questions about numbers in the environment can be collected. These notes can then be used by a teacher or tutor to expand the person's understanding of the quantitative concepts which relate to the observations. Math vocabualry should also be collected in the notebook for quick reference. Students with learning problems usually require much repetition to learn numbers concepts. If a concept is explained but not recorded in a notebook for future study, the student will often forget the concept and be no further than before in his understanding of math.

SPELLING

A Guide for Improving The Spelling Skills for students with Learning Problems

by

Richard J. Cooper

Introduction to Spelling Problems:

One of the common results of a language based learning problem is difficulties with spelling. There are many reasons for spelling problems ranging from avoidance to memory problems. The work I have done with hundreds of students with spelling problems, and my personal experience with creative spelling, leads me to make the following categories of spelling problems:

1. Auditory processing: Cannot hear the sounds (Receptive). Cannot reproduce the sounds correctly (Expressive).
2. Right/Left discrimination.
3. Limited exposure to written language.
4. The racing mind.
5. Memory problems.

By identifying the cause of spelling problems, a student or teacher can implement a specific learning strategy. These strategies are not new. Their effective use is directly associated with to how they relate to the individual characteristics of the person with the learning problem.

Auditory processing problems cause some individuals to be unable to hear the sounds in words clearly. For example, a person trying to spell the word "immediate" may hear "emmediate" rather than "immediate." An example of the inability to reproduce the sounds of words is evident when the person tries to pronounce a word in order to spell it. The word "inundate" may be mispronounced as "inandate, inendate, inindate, or inondate."

Individuals with right/left discrimination problems often become confused in spelling words which are similar. Any word or letter combination which can be expressed as "either/or" can be a problem for persons who have this difficulty, e.g. "ence/ance, ent/ant, there/their, though/thought/through."

Some individuals do not pay attention to words, especially written words. Words are not recognized as important. For persons who pay little attention to the written word, words bring to mind images rather than symbols. Words are not ignored, instead they are observed merely as essential tools for oral communication.

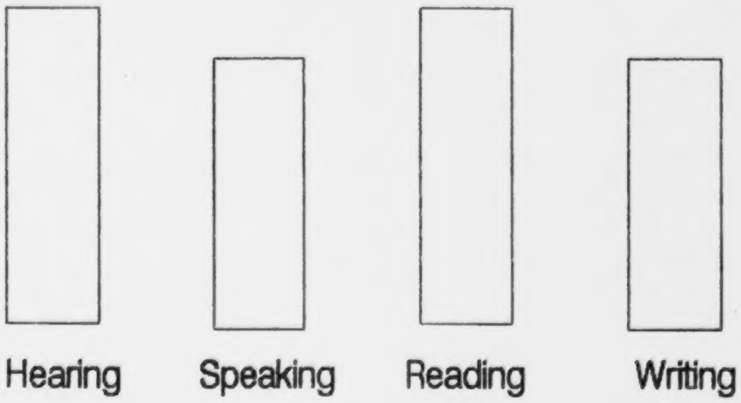
Some students with learning problems think too quickly. Their racing minds move too fast to process written language. As a result, these individuals often omit letters in words as they write.

Memory problems also affect the spelling abilities of students with learning problems. Students, who have good visual memories, can remember pictures more easily than words. It is difficult for some to remember the exact sequence of letters which comprise a word, while others cannot remember if a word is correct or not.

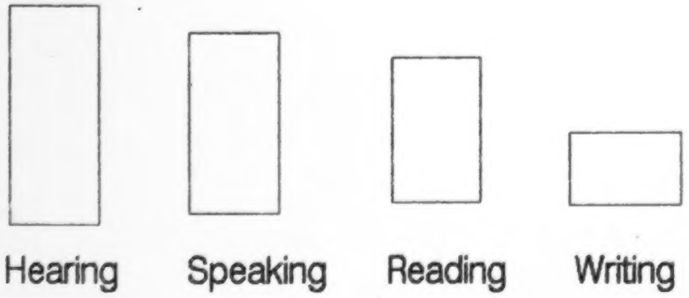
Writing vocabulary:

Individuals with spelling problems must learn the words they most often use, rather than widely applied spelling rules. It is helpful to view vocabulary as either receptive or expressive. Hearing and reading are receptive language, while speaking and writing are expressive language.

We all have four vocabularies:



Individuals with language learning problems typically have smaller reading, and even smaller writing, vocabularies than the norm. Their vocabulary profile looks like this:



When spelling is not a natural skill, alternative methods must be employed to reproduce words for the writing vocabulary. In order to find the words the student needs to add to his or her writing vocabulary, the student must identify his or her personal writing vocabulary. This can be achieved by writing as one would without concern for spelling. A teacher, tutor, or parent can then identify these words and provide the correct spelling. Older students, or those with a milder language problem, may be able to identify misspelled words and find the correct spelling themselves. This is not a one time activity, but an ongoing process. The student should continue to collect words from what he or she writes and apply various spelling techniques to the learning of these words.

Weak spellers will rarely become good spellers, but they can make great improvement both in the numbers of words they can spell and in their ability to more easily find the correct spelling of words. Setting concrete goals is a good motivator for any student and especially for the student with learning problems. For example, the student may have a goal of learning 10 words a week, or 25 words a month, or any other number which is appropriate for his or her individual learning situation.

Spelling Methods:

Since rules are often not effective with individuals with learning problems, alternative methods must be used to improve spelling. Of course, repetition is useful. Pointing out to the poor speller how he or she has been able to learn to spell his or her name and other basic words through repetition, gives the person hope that the spelling of more words can be learned. The student often protests that he cannot practice all the words as much as he practices his name. Giving examples of some other words and reviewing the concept of the writing vocabulary is often enough to dispell the sense that learning to spell is hopeless. From a student's writing, a parent, teacher or tutor can find the words which are similar in sound or structure which are causing the student to be confused. These words need to be analyzed and distinctions made between or among them. For example, contractions are often a problem for the weak spellers. The words: "they're, their and there," or "its and it's" are very difficult to distinguish.

Individuals with auditory processing problems often have difficulty separating the sounds of the words. For example the words "then and than." Showing how "then" is time and "than" is a word which commonly goes with "rather and more" is helpful. Another method for spelling is using word groups. This method compares and contrasts words which have some similarity. For example the words: "though, thought, through," and "here, there where." Many students with auditory problems have difficulty rhyming; as a result they are unable to use this simple technique for spelling. These students must be taught how to rhyme. Practice exercises, like the following, are useful in teaching this concept: "_ight." helps in remembering: "might, flight, fight, blight, light night and knight.." The words: "oat, coat, boat and float;" "loud, cloud," are other examples of this technique.

Learning word parts can facilitate spelling, because it enables the student to concentrate on parts of the words instead of the whole word. Word parts are prefixes, suffixes, words in words and roots. For example, when spelling the word "product," the students who knows prefixes can immediately spell "pro," then concentrate on "duct." The word "attendance" is a combination of the small words of "at," "ten" and "dance." Weak spellers who have difficulty reproducing the sounds in words find that by knowing prefixes, they can focus their attention on the sound of the second syllable and often recognize it. When spelling the word "common," if the student knows the prefix "com" then the sound of the "m" becomes the focus of attention. Combining prefixes is also a useful technique. The word "reinvent" is learned as a combination of the prefixes "re" and "in" plus the letter "v" and the suffix "ent." Another example is the word "inundate," a word which can be hard to find in the dictionary, if you cannot remember how to pronounce it. By remembering the prefixes "in" and "un" plus the word "date," the spelling of this word is easy. Listed below are some common prefixes and suffixes:

pro
per
com
ad
ac
bi
auto
in
op
super
un
ex
mis
ap

pre
con
ab
as
be
anti
de
im
inter
under
re
es
dis
auto

tion
ture
ed
ness
tic
ful
ence
ant
ology
ible
ize
ory
est

sion
ly
ship
tor
ity
ment
ance
al
ist
er
ary
age

tive
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Mnemonics are memory aids designed to help remember information which, for what ever reason, is difficult to remember. Most people remember the names of the lines and spaces of a musical staff with the mnemonic: "Every good boy does fine." There are also spelling mnemonics such as: "A rat in Tom's house might eat the ice cream." The first letter in each word spells the word "Arithmetic." Another example is "A friend to the end," as a way to remember where to place the "i and e" in the word "friend." One can find spelling mnemonics in "How-to-study-books," but a students does not need to look up mnemonics in books to use this technique. Custom made mnemonics can be created for any word which is problematic. For example, I helped a student learn how to remember the spelling of the word "disease," by creating the mnemonic "die in the seas." To use this mnemonic, write the word die with a space between the "i and e" -- "di e" -- and write the word "seas" in the middle.

Technology has provided a number of useful tools to aid those of us who have spelling problems. Computer software programs, which have spelling checking capacity, enable the student to quickly and easily check and correct spelling errors. Hand-held spell checkers are also very useful because of their size and portability. However, not everyone who needs these tools can afford them and some language proficiency is required in order to make use of them. Students with very weak reading skills may not be able to use the spellers because they cannot recognize the words which appear on the spell-checker screens.

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Concrete Career Counseling

A Guide for Teachers, Parents and Students with Learning Problems

by

Richard J. Cooper

Concrete Career Counseling

Introduction: Why do some individuals with learning problems have difficulty with employment? There are a number of reasons and these are as varied as the learning problems which cause difficulties with employment. There are some common factors found in the employment difficulties of individuals who exhibit characteristics commonly associated with learning disabilities. These factors apply to both those who have been diagnosed with such learning problems and those who have not been formally diagnosed. Three commonly observed problems are lack of work experience, limited work skills and poor social skills.

Many individuals with special learning needs lack "normal" employment experiences at a young age. They often do not have the chance to cut lawns, deliver newspapers, baby sit, etc. that other children their age routinely engage in. These young people often spend extra time on school related activities so that they either are not permitted to work or do not have the time because they work long hours on homework. As a result, they do not obtain the common employment experiences that most students without learning problems obtain.

Work skills are often limited by the same deficiencies which cause learning problems. Following directions, making change, filling out forms, are a few examples of why a person with a learning disability cannot perform to expected levels. Many students believe that when they leave school, they will leave their learning disabilities behind. Unfortunately, they have not only learning differences but also living differences. Poor reading skills can limit a person's work performance as much as it limited learning in school. Poor spelling can produce as much, and often more, embarrassment and avoidance than it did in school. Counting on one's fingers makes it difficult to make change.

Poor social skills are a common problem for these young people. The learning problems can cause major difficulties with social interaction. I have found that even when a person with a learning problem is matched in an appropriate job, he or she can loose that job because of inappropriate social interaction. One young man lost his job because he was constantly asking, what others felt were, inappropriate questions.

Concrete Career Counseling

Although not every individual with a learning problem learns best by trial and error or through concrete experience, there are many who learn best this way. These people may not learn much from reading about employment opportunities in the Dictionary of Occupational Titles or from a counselor discussing the training requirements for a particular job. Concrete career counseling is an experience oriented process in which the client systematically gains information about employment through observation and/or participation. He or she then can process this information with the help of a counselor or mentor. (A mentor is a person who gives guidance. This person can be a parent, teacher, counselor, friend or anyone who the student respects and trusts.)

This process takes longer than simply being told about a job or reading about career options. For individuals who have limited employment experiences and learning problems, this process enables them to learn about jobs and develop skills. The process must be individualized to meet the specific needs of each person, so the following components of the process should be selected and modified to meet those needs.

The components of the process are:

1. Assessment of the individual's career knowledge.
2. Designing a career exploration plan.
3. Employment involvement.
    a. Observations
    b. Volunteer experiences
    c. Part time paid employment
    d. Full Time paid employment

4. Processing the experiences with a counselor or mentor.

5. Repeating the process (as often as necessary).

Assessment:

The first component of concrete career counseling is to assess the individual's career knowledge to determine what he or she knows or does not know about themselves and the world of work. Does the person understand his strengths and weaknesses and how these affect functioning in social, academic and other skill areas? How much does the individual understand about the roles of the employer, co-workers, and customers? How well informed is he or she about the various jobs and the tasks required by those who perform those jobs? This information can be obtained through a process which explores the person's answers to questions such as: What skills are required of a cashier? What do you do when two different supervisors give you contradictory orders? How might your learning problems affect your ability to perform on the job?

Career Exploration Plan:

Based on the information gained from the session or sessions with the person, the counselor or mentor helps him or her to design a plan to gain work experience. This plan must take into consideration the individual's level of anxiety about new experiences. For those who manifest evidence of fear of failures, small steps are recommended to ease the person into the world of work. This plan can be comprehensive, planning out all the steps, but more often it will provide a general direction and list specific steps only for the next stage.

Employment Involvement:

a) *Observations:* The individuals, who know very little about the world of work or their career interests, should make arrangements to observe at different establishments in order to learn about the type of work performed, the skills required, the environments and the type of people who work there. Many employers are unwilling to have people observe, or shadow, because of their insurance concerns or personal dislike for be towards individuals with learning problems. Therefore it is often better to again use one's personal network. Many places use volunteers: public agencies, libraries, hospitals, fire departments, schools, child care agencies, nursing homes, the Red Cross, and other similar agencies.

If a person has no idea what the world of work is like, a number of short experiences can be very informative. Although the short experiences may be more difficult to arrange, if this is what it takes for the person to acquire concrete experiences about different types of work, it is well worth the effort. While students are still in school, long term volunteer assignments can instill a sense of loyalty and commitment.

c) *Part Time Work:* The next logical step in the process is part time paid work experiences. (For some students the other steps may have already been achieved and they begin the process here.) Paid work has its obvious advantages. It provides monetary reward for work performed and can help develop a sense of worthiness. On the negative side, if the person does not perform, he or she can be fired. If the person has worked through the employment problems in other steps in this or any other process, the person should be able to succeed in part time employment. The chances for success can be increased if timely support is readily available. For example, a new employee in his first paid position became accustomed to his supervisor telling him that he "would see him tomorrow." On the fourth day, when this statement was not heard, this new employee did not shoe up for work the next day. He did not know that there was a schedule where his hours were listed. Only through the aid of a job counselor was he reinstated. The supervisor had difficulty believing that this new employee did not know that there was a work schedule.

Another concept that individuals, who have little work experience combined with learning problems, must learn is that they must do what the supervisor or boss orders. Many want to do things their own way. I have heard many times from my clients that "the managers don't know what they are doing; things are so disorganized; if they would only allow me to such interferences. The best way to find an employer who will allow someone to shadow is to use a network of friends, family and acquaintances. Starting will family members and friends allows the person to obtain some experience. The employer who either has an understanding of learning problems or who is willing to consider the possibility of a person with special learning needs is often the best person to approach. This does not mean that a person cannot obtain an opportunity to observe by just asking someone, but the chances are better when the path is paved by someone who can present your intentions in an objective manner.

Not all students need to participate in the observation phase. Other students might find it necessary to observe many different situations in order to gain an understanding of the world of work. Also, in many cases, the counselor may have to provide support which would not be expected for persons without learning problems. For example, the counselor may have to make phone calls or fill out job applications for the person. To expect the person to do everything without repeated practice, can be to deny their disability, inexperience or fear.

An important part of this phase is the processing of what has been observed. This can be accomplished by discussing with a counselor or mentor the various aspects of the experience and what can be learned from the observations.

b) *Volunteer experiences:* The next level of employment involvement is volunteering. There are a number of reasons why volunteer work is a good way for young adults to obtain work experience. These include less pressure, lower performance expectations, and a chance to learn by mistakes without serious consequences. Additionally, these experiences generally require fewer hours and a temporary commitment.

Finding volunteer opportunities can be accomplished in much the same manner as observations. However, in addition there are agencies in many communities whose purpose is to place volunteers. However it is my experience that these agencies are not as sympathetic as they could do it my way..." The counselor or mentor must help these individuals learn to take and follow orders. Additionally the clients must learn to accept circumstances as they are and not complain or excuse their poor performance or dissatisfaction. The work situation might indeed be the problem, but most often it is the inexperienced employee who sees things incorrectly rather than poor management or disorganization. Through concrete career counseling the person with learning problems can learn the difference between the two and learn strategies for accepting orders or dealing with difficult situations.

d) *Full time experiences:* When the time comes that the student has reached the stage when he or she is ready for full time work experience, the process continues. The information learned from the experience in this stage is as important as it is in each previous stage. The questions and issues may be different, but the process is the same. For example, the person must become accustomed to longer hours. This means less time for other activities, be it social or personal. Adjusting to the new time schedule can be difficult for some. One client, with whom I worked, thought nothing of taking time off for doctor and dentist appointments. This person had done so while he was in school, and he saw no reason why he should not take time from work for such appointments. He argued that he could not have those appointments in the evening or on his day off because he had other things to do. This person had to learn new patterns of time management, placing a priority on work rather than other activities.

In another case, a person with a severe learning problem did not understand the role of an employee. His parents were professionals so his model of the world of work was that of colleagues rather than supervisor and employee. He interacted with his bosses as peers and became upset when the supervisors did not follow his suggestions for improving the company's operation. It took a lot of counseling to develop an understanding of the appropriate role of an employee. In several other cases, I have found that the clients have learned, through their school experience, that if they are unable to do something they will not be required to do that task. As a result they felt that if they could not do a task, or did not like it, all they had to do was not to do it well and someone else would complete it or they would be given another task. It took many hours of counseling, and in some cases, a number of different jobs, for these individuals to understand that they had to learn and complete the task. Only by doing a good job could they grow past it. In come cases the tasks were directly related to the learning problems and could not be mastered. In these cases, the problem had to be dealt with directly rather than ignored or avoided.

Learning to interact with coworkers and customers is another skill which can be dealt with in the concrete career counseling process. The counselor can help the person problem solve various situations and role play situations which are problematic.

Conclusion: Concrete career counseling should be individualized and it should proceed in small steps. The information gained from the process can become more useful if it is recorded. Keeping a diary, notebook or a recording of the experiences can be used by the person and the counselor to maximize the information gained from the various employment situations. Regularly spaced meetings with the person, exploring the world of work, are more important than a concentrated effort in the beginning. The counselor or mentor must remember that the person with a learning difference does perceive, process and express information differently from the norm. These differences must be considered in any activity or work experience. Often learning differences are weaknesses in some environments and strengths in others. Learning about these strengths and weaknesses can make the difference between success and failure.

How to Succeed in College

A Guide for College Students with Learning Problems

by

Richard J. Cooper

How to Succeed in College

Students with learning differences have unique qualities and problems. Every student brings individual strengths, weaknesses, interests, and personalities to the educational institution and those with learning differences bring their unique qualities along. Students with learning differences can be successful if they are in the right environment. It is safe to say that someone with a learning problem has graduated from every college in this nation. Most of these students were probably never diagnosed but struggled and found their way through their program to completion. It is also true that there probably are students with learning differences who have not succeeded at every institution of higher learning in this country.

Students with learning differences, problems and disabilties can succeed in college. Depending on the severity and extent of their problems, these students can be successful, with or without assistance. The process of completing college might be less difficult if students with various learning ideosyncracies can identify their strengths and weaknesses and utilize the services which are already available to most students.

Hard work is essential to all college students in order to do well but, because of learning problems, students who have academic weaknesses must work even harder to compete with their peers. Some college instructors suggest that students need to study two hours for each hour of instruction. Many students see this expectation as excessive and, too often, these students only study enough to complete assignments and prepare for examinations. The student with learning problems should expect to study more than others and must commit to putting in more time.

Self-awareness is essential for success in college and, for that matter, in life. The college student with a learning problem must be aware of how his perceptions or thought processes differ from others and how they affect various areas of functioning. The self-awareness can be acquired through years of self-observation or, more quickly, through counseling or input from others. Knowing your strengths and weaknesses is an essential part of self-awareness exploration. Learning strategies are built on strengths which means that a student cannot develop good and effective study skills without self-awareness.

College students with learning problems must learn self-advocacy. It is the student's responsibility to know his learning differences, the accommodations he needs, and communicate these to teachers and other professionals. For example, if you know that you process more information than others because of a difficulty with "either/or" relationships or because it takes longer to read questions, then you need to be able to explain this to a teacher and be specific about how much extra time you need. No matter what accommodations you need, you must know what they are specifically and why you need them.

Based on the information that the students have obtained about themselves, they should use this information to discover such things as a place and time to study. Some students study better in the library, while others are able to concentrate better in their room. A student should know if he or she is a morning person, better able to study then, or a night person.

One of the study techniques that can help students with learning problems is to divide studying into mechanical and analytical tasks. Mechanical tasks are those which can be accomplished without much concentration. For example, a student can begin by using study tools, like index cards, for vocabulary or outlines of textbook chapters. These tasks require less concentration and can be accomplished when one is doing other things like listening to music or watching television. On the other hand, analytical tasks require total concentration. These include: reading, memorizing, understanding, studying, analyzing, and writing assignments. By dividing assignments into different types of tasks, the student can continue to study, even if he is fatigued, by doing a mechanical task. Often, by having the mechanical tasks completed, the time spent on analytical tasks can be more effective.

One of the basic pedagogical principles is time on task. Each student must put in enough time to learn and also master the subjects. Students should find ways to increase their time on task. The technique mentioned above is one way to increase time on task, another way is to play mind games with yourself. The student should graph study time each day. In order to do this, first, establish a base study time (the time one usually studies). Next, graph the time ones studies each day. Third, analyze the graph to notice patterns. The fourth step is to try to exceed each daily study time of the previous week. Keeping the graphs in a highly visual place, serves as an affirmation for more time on task.

There must be a balance between social and academic activities. Individuals with learning problems must realize that because of their difficulties in learning, they must dedicate more time to studying than others who do not have their problems. Therefore, the balance between social activities and study time probably will be different from that of their peers -- more study time and less socializing. Often students who have learning problems resent this apparent injustice and try to deny it. The key to success is a balance which is appropriate for the individual. In other words, all study without social activities or too many social activities are equally detrimental for any student. Learning how to find the correct balance is difficult if the student uses the trial and error method. Seeking advice from others who have similar experiences, or from counselors who have an understanding of learning problems, can eliminate unnecessary problems and failures.

Having mentioned counselors, a few words should be said about school resources such as tutors, counselors, psychologists, learning specialists and academic counselors. Students with learning problems should know about all the resources which are available at the institution. Typically, these resources are available in stages or as needed. The student with learning problems should know all the individuals on campus who can provide service. Collect their phone numbers, office locations able to benefit from this valuable resource.

Students should take advantage of counseling to monitor behavior and explore their strengths and weaknesses. Counseling is usually one of the services provided to all students, but too few take advantage of this helpful resource. Too many persons believe that it is a sign of weakness to talk with a counselor. This is an attitude which is self-limiting; talking with a counselor can enable a student to learn more about himself than most people can do alone. It is a sign of maturity to take advantage of resources for self-development.

Instead of a counselor some students may find a mentor more helpful. A mentor is a person who is personally interested in your future and who you trust. Usually this person is not directly responsible for your education. The advantage of having a mentor is that he or she can provide the student with impartial advise.

Since many students have difficulty with time management, it is important that they find techniques which structure their time. Graphing your activities, as mentioned above, is a good way to document one's study and play personal mind games by trying to increase one's study time. Some people do better with structured time but many with learning problems are unable to structure their own time. Only when the person admits this, and accepts structure imposed by others, will he or she be able to work effectively. Procrastination is a common trait found among those with learning problems. This is often the effect of avoidance and learned patterns of behavior. Understanding why one procrastinates is the first step in dealing with this time management problem.

All students should take advantage of the latest technology. This is especially true of students with language based learning disabilities. The word processor not only enables the student to edit writing with more efficiency, it also can help with organization and sequencing. Rewriting one's notes on the word processor not only helps the student to be and the nature of the service that the person provides. Obtain information about the following persons (not all of these persons are at every institution):

Peer tutors
Learning specialists
Academic Advisors
Psychiatrists
Nurses
Spiritual Advisors
Professional tutors
Counselors
Psychologists
Ombudsman
Medical Doctor
Resident advisors
Administrators such as directors, deans, vice presidents and president.

Extracurricular activities can be a distraction or an asset depending on how they are used. This is true for all students but especially true for the student who has learning problems. Activities which use the student's strengths or which help develop academic skills can be beneficial while those which require a weakness might demand an inordinate amount of time. It is advisable for the student with a learning problem to seek guidance when making a decision about whether or not to participate in extracurricular activities because there might be unknown factors involved in these activities. For example, working for the school newspaper may require writing skills, while working for the yearbook, which has more photographs, may be less time consuming.

Many students do not like to use the library because they are intimidated and lack knowledge. Students with learning problems must obtain a knowledge of the information systems in the library and develop a working relationship with the librarians. A personal experience may help illustrate a different way of viewing libraries. I was always intimidated by libraries while in school (until I was in graduate school) because I felt overwhelmed by the information contained there. I had no way of knowing what to read or how to begin to determine what to read. I was too embarrassed to ask anyone for assistance. As a result, I was not better organized but also makes notes more readable. There are many software applications to help students with learning problems to study and learn. The sooner a student becomes computer literate the better.

A Few Additional Thoughts

Books on tape can be useful tools for students with reading problems. These recordings of full length books can provide the student with information from written material which might otherwise be inaccessible. However, not all students with reading problems can use books on tape. Students whose reading problems are primarily caused by distractions, may have the same problem paying attention to books on tape as they have paying attention to the written page. I suggest that students first try using recorded books which are available in most libraries. If listening to recorded books is helpful, then the student should apply for talking books.

Learning to break tasks into smaller parts can be an effective learning tool for students with learning problems. For example, when confronted with a term paper, the student should think of all the steps involved in the project. Write down all the steps and divide those steps which can be further divided. Then place a time and date on each step. Reading assignments can be broken into smaller tasks by planning how much time one has to read and dividing the total number of pages by that length of time.

For those students who learn best through interaction, studying with a friend can be an effective technique. Some students with learning problems need to express out loud the material being studied. By explaining concepts to another person, a student can reinforce what is being learned. Studying with others can also provide the time structure which some students may need.

A study technique which can help these student who thinks in global rather than specific terms, is studying around a subject. This means that the student pays attention to everything that relates to the subject he is studying. For example, if the course is accounting, then accounting should be a frequent topic of discussion with friends and classmates. Any reading of newspapers or magazines should include a search for any bits of information that may relate to accounting.

If a student is not doing well in school and suspects a learning problem, that student should get tested to verify whether or not a learning problem is responsible for the academic difficulties. Assigning a lable is not as important as understanding the root problems of observed behavior.

In conclusion, each student must take responsibility for his or her own learning. The student must identify and understand his strengths, weaknesses, preferences and fears. Additionally the student should know what accommodations are needed and not expect others to offer them without a clear explanation and justification.